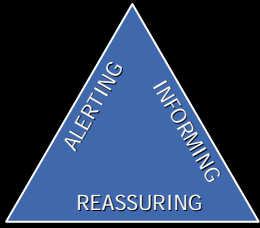


“AIR” - A Component Model of Emergency Public Information





The AIR Model

- ✓ **ALERTING**
Gain attention in a busy world
- ✓ **INFORMING**
Share actionable knowledge
- ✓ **REASSURING**
Reduce the emotional barriers to learning and acting

Challenges of Public Warning

- ✓ Many warning tools, all of them useful:
 - ✓ EAS
 - ✓ Weather Radio
 - ✓ Telephone Alerting
 - ✓ Sirens
 - ✓ Internet, Email, etc., etc...
- ✓ People tend to mistrust single-source warnings
- ✓ People are confused by inconsistent messages
- ✓ People are annoyed by irrelevant warnings: danger of them “tuning out”
- ✓ Warning issuers are busy during an emergency

The Opportunities

- ✓ Social science provides guidelines on effective warning message content
- ✓ Heightened awareness of the crucial role of public information in homeland security and natural disaster management
- ✓ Most warning systems are now computer-controlled
- ✓ Internet and other technical standards make connections between different systems possible
- ✓ GIS, GPS and Wireless E9-1-1 are making location information ubiquitous and affordable

The Missing Piece

"A standard method should be developed to collect and relay instantaneously and automatically all types of hazard warnings and reports locally, regionally and nationally for input into a wide variety of dissemination systems."



Effective Disaster Warnings

Report by the Working Group on

Natural Disaster Information Systems

Subcommittee on Natural Disaster Reduction

Committee on Environment and Natural Resources

National Science and Technology Council

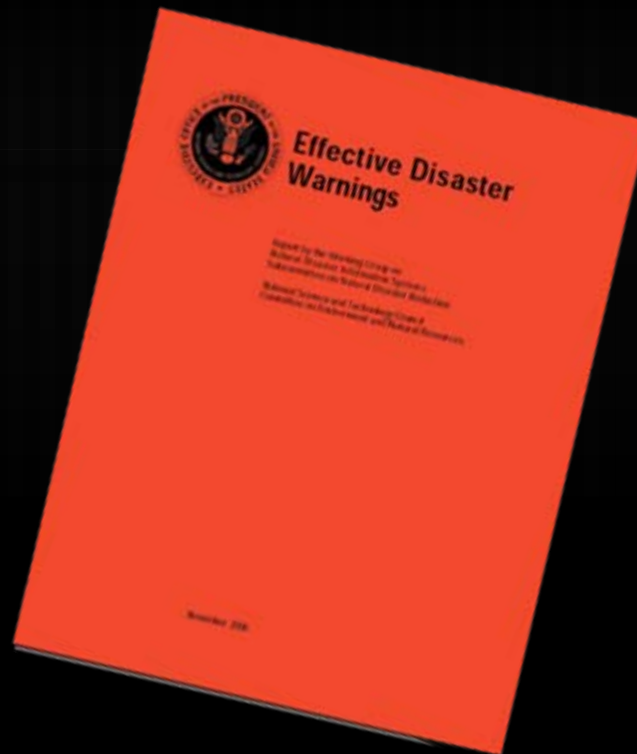
November 2000

The Common Alerting Protocol (CAP)

- ✓ Non-proprietary XML content standard for sharing alerts and warnings among different technologies
- ✓ Compatible with EAS, Weather Radio, sirens, telephone, text displays and other existing systems
- ✓ Flexible geographic targeting of alerts
- ✓ Phased and delayed effective times and expirations
- ✓ Message update and cancellation features
- ✓ Facility for including digital images and audio

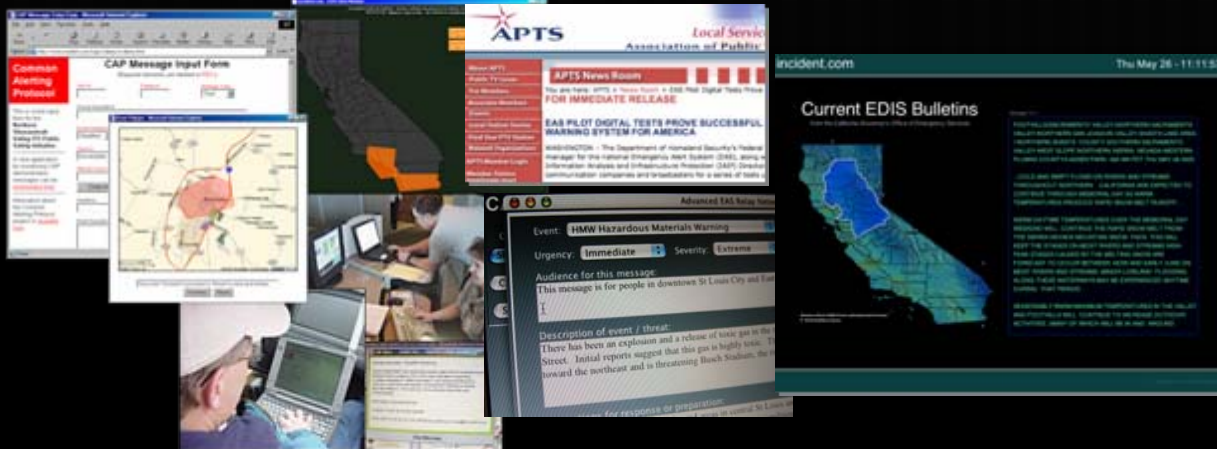
CAP Timeline

- ✓ November 2000 - NSTC releases “Effective Disaster Warnings” report



CAP Timeline

- ✓ **2001** - International CAP working group convenes, Partnership for Public Warning forms
- ✓ **2002-03** - CAP format develops through functional review and field trials in DC, Virginia and California



CAP Timeline

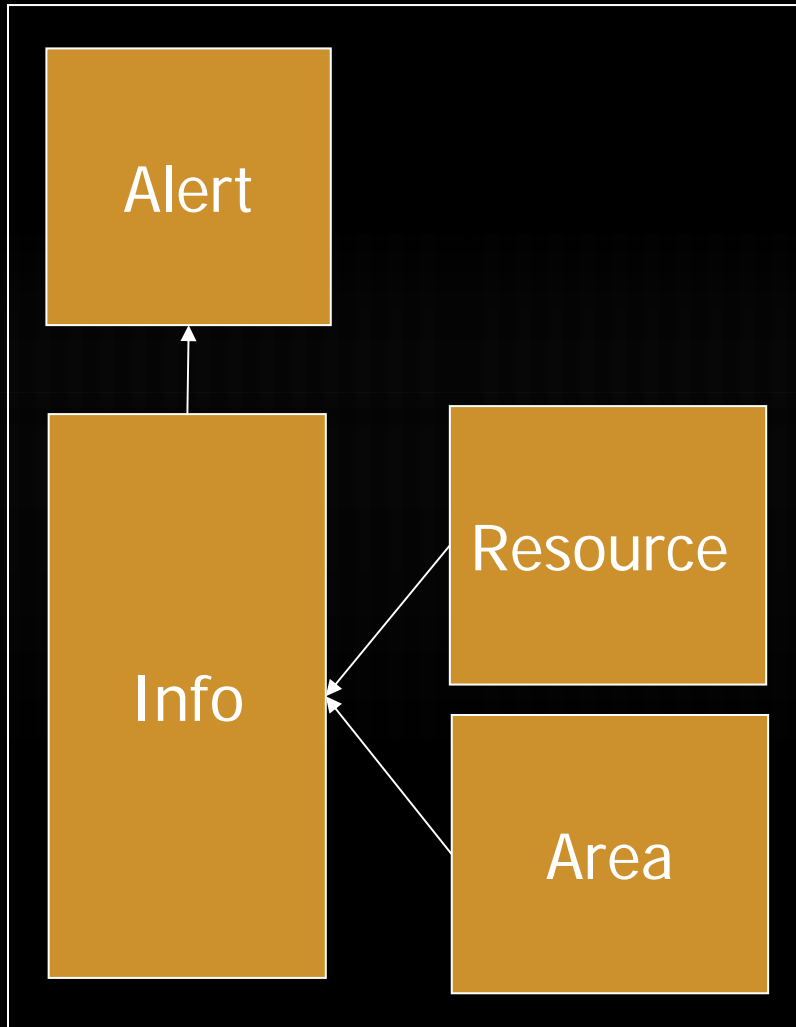
- ✓ **2003** - CAP data elements added to Global Justice XML Data Dictionary
- ✓ **2004** - CAP 1.0 approved as OASIS Standard
- ✓ **2005** - DHS “Digital EAS” and other deployments, CAP 1.1 update adopted



CAP Design Philosophy

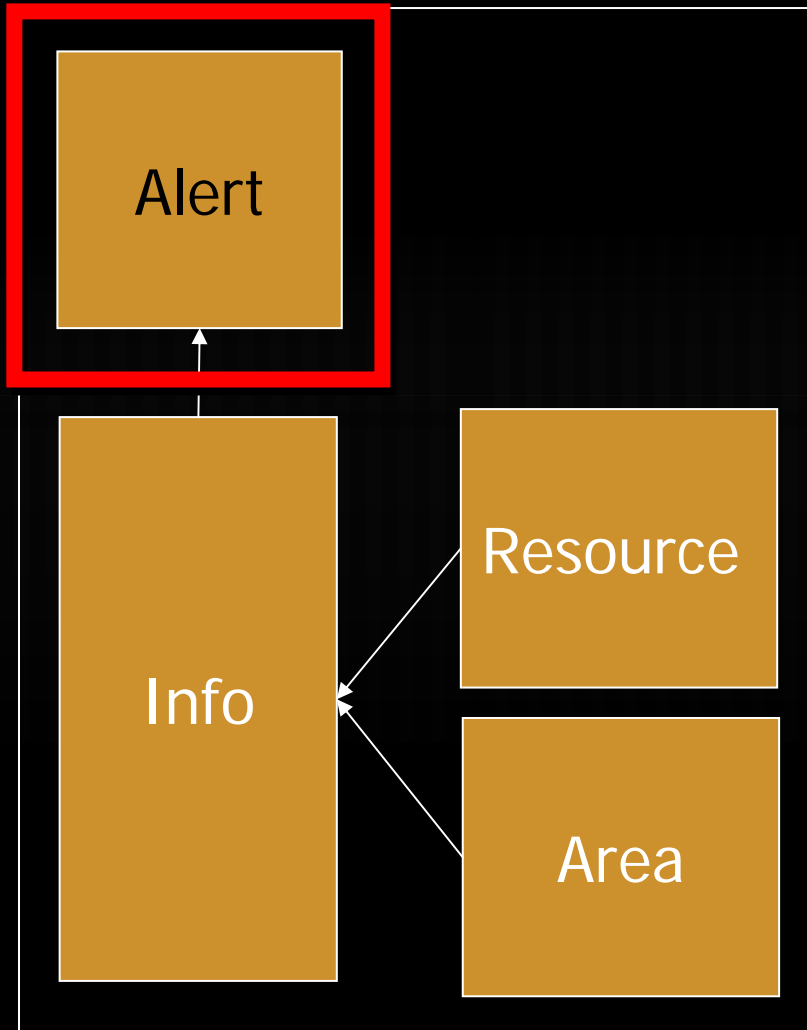
- ✓ Research-based template for complete & effective messages
- ✓ Consistent delivery to all audiences across all warning systems
- ✓ Respond to multi-lingual and special audience needs
- ✓ Compatible with existing systems
- ✓ Flexible geographic and timeframe targeting to fit messages to audiences more precisely
- ✓ “Write it once” method for warning officials

The CAP Information Model



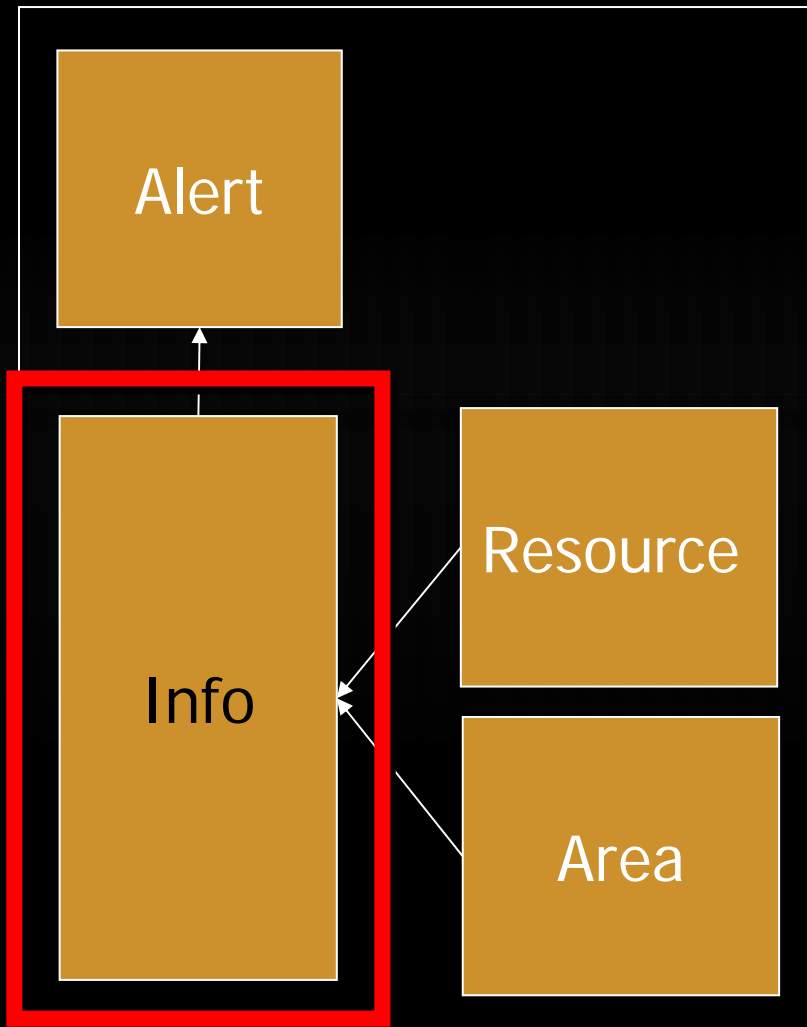
A non-technical
description...

The Alert Block



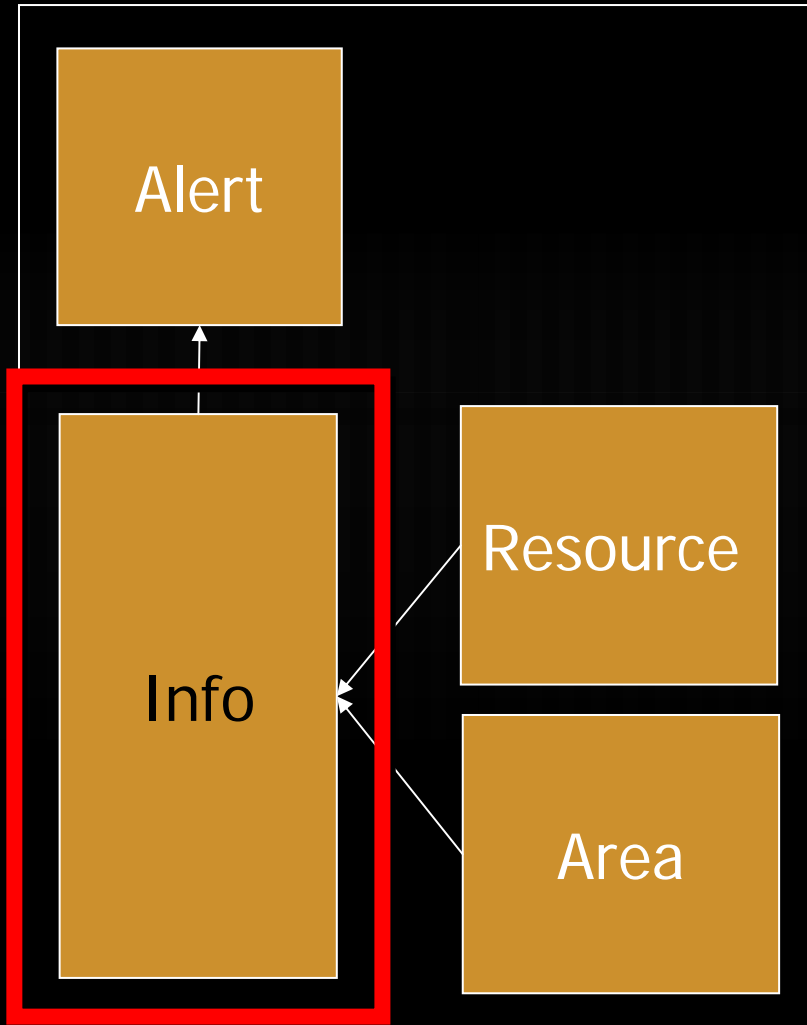
- ✓ The identifying “envelope”: identifies sender, message number, message type, time sent, etc.
- ✓ Contains one or more `<info>` elements

The Info Block



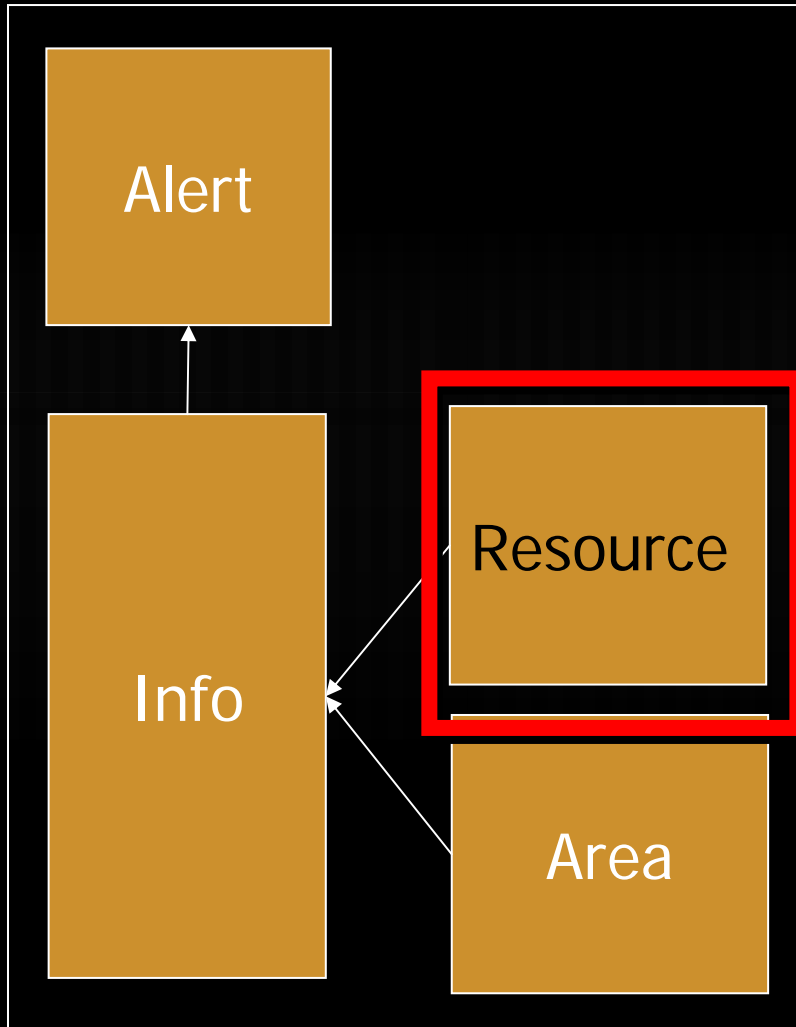
- ✓ Details for a particular audience, area or timeframe: Who, What, When, Why and So What?
- ✓ Multiple <info> blocks may be used for time-phased, multi-lingual, multi-level (e.g., watch / warning) messages

The Info Block



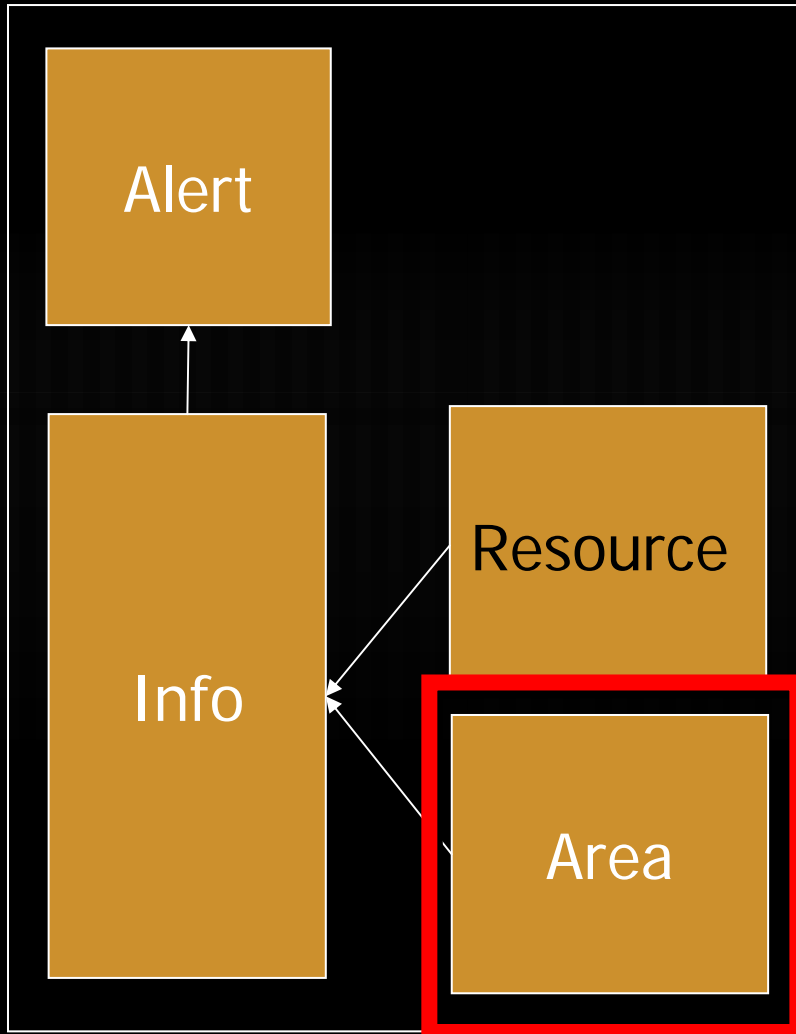
- ✓ Effective and expiration times
- ✓ Language designator
- ✓ Hazard details and public instructions
- ✓ Contact information
- ✓ Additional technical data

The Resource Block



- ✓ Optional attachment of any additional data file
- ✓ Allows inclusion of photos, maps, audio, video, etc. in the warning message

The Area Block



- ✓ Specific geographic target area for a particular <info> block

The Area Block



- ✓ Specific geographic target area for a particular <info> block
- ✓ May be based on existing alerting zones, county boundaries, etc...
- ✓ Or may be completely unique targeting based on hazard (e.g., hazmat plume model)

The Other Stuff We Need

- ✓ Transport
- ✓ Routing and Buffering
- ✓ Identity
- ✓ Data Sources
- ✓ Displays and Applications
- ✓ Disclosure Policies & Standards of Practice

“Situational Awareness”

- ✓ Level One - Objects and Conditions
Sensing events
- ✓ Level Two - Patterns and Interactions
Understanding events
- ✓ Level Three - Trends and Deviations
Anticipating events

Resources

- ✓ OASIS Emergency Management Tech. Committee:
<http://www.oasis-open.org/committees/emergency/>
- ✓ Emergency Interoperability Consortium (EIC):
<http://www.eic.org/>
- ✓ Partnership for Public Warning (PPW) archive:
<http://www.PartnershipForPublicWarning.org/>
- ✓ Common Alerting Protocol “Cookbook”:
<http://www.incident.com/cookbook/>